REMARKS

The Official Action mailed March 14, 2000 has been received and its contents carefully noted. Claims 1-6, 8-20, 22-34, 36-48 and 50-166 are pending in the present application. Applicants' appreciate Examiner Angebranndt's time in conducting a personal interview on May 2, 2000. During the interview, the present pending claims and distinguishing features discussed in detail below were reviewed.

Paragraph 1 of the Official Action objects to claims 61-67, 72-78, 83-89, 94-100, 105-111, 116-122, 127-133, 138-144, 149-155 and 160-166 as being in improper multiple-dependent format in that they do not refer back in the alternative only. In response, these claims have been amended to correct this informality and reconsideration is requested in view thereof.

Paragraph 2 of the Official Action rejects claims 134-137, 145-148, and 156-159 (group 1) as being substantial duplicates of claims 1, 8, 15, 22, 29, 36, 43, 50, and 57-60 (group 2). In response, it is noted that the claims of group 1 recite a method of operating an optical disk while the group 2 claims recite a method for operating an optical disk memory. It is respectfully submitted that these terms provide a different scope of protection to the present invention in that the term "optical disk memory" describes an optical disk that is recordable where the term "optical disk" includes both disks that are recordable and those that are not. Furthermore, it is noted that the prior art relied on in the Official Action itself distinguishes between this terms. See, for example, JP 2-58744, which uses the term "optical disk memory." Furthermore, the claims of group 2 have been further amended herewith to recite an "optically recordable disk memory" to further distinguish them in scope from the group 1 claims. Therefore, it is respectfully submitted that the group 1 and 2 claims are not merely duplicative and reconsideration is requested in view of the above.

Paragraph 3 of the Official Action rejects claims 1-6, 8-20, 22-34, 36-48, and 50-166 under 35 U.S.C. § 112, first paragraph as lacking enablement. More specifically, the Official Action asserts that the specification does not provide enablement for any methods for achieving the reduced pinhole density other than ultrasonically vibrating the substrate during plasma deposition. Thus, the Official Action concludes that the specification does not enable a person of skill in the art to practice the invention commensurate in scope with the claims.

Applicant respectfully disagrees. As noted in MPEP 2164.08 the scope of enablement must only bear a "reasonable correlation" to the scope of the claims. As stated in *In re Goffe*, 542 F.2d 564, 567, 191 USPQ 429, 431 (CCPA 1976), "to provide effective incentives, claims must adequately protect inventors. To demand that the first to disclose shall limit his claims to what he has found will work or to materials which meet the guidelines specified for "preferred" materials in a process such as the one herein involved would not serve the constitutional purpose of promoting progress in the useful arts."

In the present application, the claims are directed to a method for operating an optical disk including the steps of introducing an optical disk having a surface protected by a protective film comprising a hard-carbon coating having a thickness of 500Å or less and irradiating a semiconductor laser light onto the optical disk through the hard-carbon coating; wherein the number of pin-holes in the hard-carbon coating is $30/mm^2$ or less. As noted on page 4, lines 1-6 of the present specification, one object of the present invention is to provide a method for forming a novel hard-carbon coating. Another object is to provide a method of fabricating a hard-carbon coating, which is fine, has high hardness and adhesion and reduces the number of pin-holes formed therein. Thus, the scope of the claims is intended to be broadly construed to apply to any hard-carbon film having the recited pin-hole density.

Applicants clearly disclose in the specification one preferred method of forming such a hard-carbon coating beginning on page 19 of the specification. While this preferred method includes ultrasonically vibrating the substrate, it is respectfully submitted that those of skill in the art would recognize that other formation methods could be employed in accordance with the present invention. It is submitted that the disclosure in the specification is "reasonably correlated" with the scope of the claims. As in *In re Goffe*, to demand that applicant limit his claims to what he has found will work (i.e. ultrasonic vibration) would not serve the constitutional purpose of promoting progress in the useful arts. Furthermore, applicant is not claiming an open-ended range (in that pin-holes cannot be reduced below zero) and the scope of the presently pending claims are not in an unpredictable art, such as the chemical arts. That is, the pin-hole density is a structural feature, easily determined from analysis of the hard-carbon film. For the above reasons, reconsideration of the outstanding rejection is requested.

Paragraph 6 of the Official Action rejects claims 1-6, 15-20, 29-34, 43-48, 57, 59, 101, 103, 112, 114, 123, 125, 134, 136, 145, 147, 156 and 158 as obvious based on JP 02-058744. With respect to the limitation of the pin-hole density, the Official Action states that the examiner holds that the films of JP 02-058744 meet the recited limitation of the claims. It appears that the Official Action is asserting that the claimed pin-hole density of $30/mm^2$ would be inherent in the disclosure of JP 02-058744. Paragraphs 7-9 reject various claims based on the combination of JP 02-058744 with other prior art of record.

Applicant respectfully disagrees. JP 02-058744 fails to disclose or suggest the claimed pin-hole density limitation and in fact fails to even discuss pin-hole formation at all. To the extent that the Examiner is asserting that the claimed pin-hole density would be inherent, applicant notes MPEP 2112, which states: "The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. . . . In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art.
It is respectfully submitted that the MPEP guidance makes clear that a case of inherency has not been established in the present application. While the disclosed process of JP 02-058744 may result in a pin-hole density less than $30/mm^2$, such density would not necessarily flow from the process disclosed therein. Furthermore, the examiner has not provided any basis in fact and/or technical reasoning to reasonably support the determination that the claimed pin-hole density necessarily flows from the teachings of JP 02-058744. Therefore, reconsideration and withdrawal of the outstanding rejection is respectfully requested.

It is further submitted that the remaining references relied upon in the Official Action do nothing to overcome the deficiencies noted above. With specific reference to JP 63-275037, the Official Action states that this reference teaches forming dense hard carbon films with decreased pinholes, thereby allowing films with reduced thicknesses to be formed. While the English abstract of this reference does states that the process disclosed therein results in a hard carbon film having decreased pin-holes, the references fails to disclose the specific claimed pin-hole density of $30/mm^2$. As noted in the specification on page 2, lines 20-26, the claimed pin-hole density is particularly advantageous for providing a hard carbon film that prevents moisture

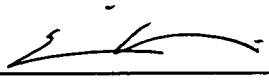
penetration and thus results in long term reliability. Furthermore, as noted on page 24, lines 25-28, the hard carbon coating in accordance with the present invention is excellent in blocking action against chemical resistance and moisture.

Paragraph 10 of the Official Action reject various claims based on the combination of Brezoczky '229, Ikoma '829 and Shinohara 63-275037 or Murai '132. Paragraph 11 of the Official Action rejects various claims based on the same references in combination with Shinohara 01-184722. It is respectfully submitted that these references do nothing to overcome the deficiencies noted above in that these references fail to disclose the claimed pinhole density of $30/mm^2$. In this regard, the Examiner's attention is directed to MPEP § 2142-2143 wherein it is noted that a *prima facie* case of obviousness requires that "the prior art reference (or references when combined) must teach or suggest all the claim limitations." (Emphasis added). It is respectfully submitted that the prior references fail to teach or suggest the claimed pinhole density limit of $30/mm^2$ as recited in the currently pending claims and thus fail to satisfy at this requirement of a *prima facie* case of obviousness.

For all of these reasons, the pending claims are believed to be patentable and favorable reconsideration is requested in view of the above remarks.

Respectfully submitted,

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